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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,508	08/16/2000	Richard S. Chomik	460.1891USV	3194

7590 07/21/2006

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EXAMINER

DEXTER, CLARK F

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 07/21/2006

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/639,508
Filing Date: August 16, 2000
Appellant(s): CHOMIK ET AL.

MAILED
JUL 21 2006
Group 3700

Charles N. J. Ruggiero
For Appellant

EXAMINER'S ANSWER

As ordered by the Board of Patent Interferences and Appeals on March 14, 2006,
the Examiner's Answer mailed June 3, 2005 has been VACATED. This revised
Examiner's Answer is in response to the appeal brief filed May 16, 2006.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments*

No amendment after final has been filed.

(5) *Summary of the Invention*

The summary of invention contained in the brief is correct.

(6) *Summary of the Claimed Subject Matter*

The summary of claimed subject matter contained in the brief, which is contained in the first sentence of this section, is correct. Regarding applicant's remarks added thereafter, it is the Examiner's position is that the prior art has been analyzed and applied in view of what it teaches one having ordinary skill in the art. Regarding applicant's final remark in this section, the issue of whether the apertures are formed by hand or by an apparatus appears to be moot since such a distinction is not claimed, and the Examiner's position is that the prior art fairly teaches each and every limitation of the claimed invention.

(7) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the issues in the brief is correct.

(8) *Grouping of Claims*

The rejection of claims 14-16 stand or fall together as stated by appellant.

(9) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(10) *Prior Art of Record*

5,499,729 GREENWOOD et al. 3-1996

(11) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Greenwood et al., pn 5,499,729.

Greenwood discloses a vent disc (e.g., in Figures 14-18) that meets every positive method step of the claimed invention. Specifically, Greenwood teaches the claimed invention as follows.

Claim 14:

A method of forming a plurality of apertures (e.g., each aperture including 73 & 74) in a concavely curved domed portion (e.g., 77) of a vent disc (e.g., 72), said plurality of apertures (e.g., 73 & 74) each having centerlines, which comprises:

forming said plurality of apertures (e.g., 73 & 74) with each of said centerlines coincident to a radius that forms a concave curvature of said domed portion (e.g., 77),

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wherein said plurality of apertures (e.g., 73 & 74) have at least two different diameters through said domed portion (e.g., 77; note that appellant has taken the position during prosecution that this limitation means that one of the depressions 74 of the present invention, which forms part of one of the apertures (73 & 74), has infinite diameters when taken in cross sections taken generally perpendicular to the centerline of the depression 74, and therefore has at least two different diameters; this is also true of the depressions of Greenwood),

wherein said plurality of apertures are resealable (e.g., see col. 5, lines 47-49, col. 6, lines 41-45, col. 8, lines 40-41, 57-59), and

wherein said domed portion is elastomeric (e.g., see col. 5, lines 2-3; col. 9, lines 6-7).

Claim 15:

The method of claim 14, further comprising forming a portion (e.g., 74) of each of said plurality of apertures (73 & 74) with a hemispherical shape (e.g., see col. 8, line 59).

Claim 16:

A method of forming a plurality of perforations (e.g., 73) in a concavely curved domed portion (e.g., 77) of a vent disc (e.g., 72), which comprises:

forming a plurality of upwardly extending depressions (e.g., 74) in an undersurface (e.g., 76) of said domed portion (e.g., 77) while leaving a residual of said domed portion above said plurality of depressions (e.g., 74), said plurality of depressions (e.g., 74) each having a centerline, each of said centerlines being

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coincident with a radius that forms a concave curvature of said domed portion (e.g., 77);
and

forming a plurality of perforations (e.g., 73) through said residual, said plurality of perforations (e.g., 73) being resealable (see corresponding description for claim 14 above) and each having a centerline, each of said centerlines of said plurality of perforations (e.g., 73) being formed coincident to a corresponding centerline of one of said plurality of depressions (e.g., 74), wherein said domed portion is elastomeric (see corresponding description for claim 14 above).

Note: Regarding claims 14 and 16, the limitation “a radius that forms a concave curvature of said domed portion” has been interpreted simply as a radius of the domed portion, particularly the upper and lower surfaces of the domed portion. Such a radius is, by definition, perpendicular to a tangent line that intersects the surface at the point where the radius intersects the surface. The Examiner’s position is that Greenwood, as shown in Figure 17, clearly conveys to one having ordinary skill in the art that the centerline of each aperture (73 & 74), which extends through the center of the depression 74 and through the center of the perforation 73, is coincident to the radius of the concave curvature of the domed portion. In other words, the centerline of the aperture (73 & 74) is perpendicular to a tangent line that intersects the surface at the point where the centerline intersects the surface. Therefore, one having ordinary skill in the art would clearly conclude that such a centerline, which is fairly considered to be

represented by the perforation line 73, is clearly coincident to a radius that forms the concave curvature of the domed portion.

(12) *Response to Argument*

As described in detail above in the prior art rejection, Greenwood discloses each and every limitation of the claimed invention. The only point of contention by appellant is directed to the centerline location and the centerline orientation of the plurality of apertures (wherein each aperture includes a depression and a perforation). Appellant's claims set forth that each aperture (in claim 14) or each depression and perforation (in claim 16) has a centerline coincident to a radius that forms a concave curvature of the domed portion of a vent disc. The Examiner respectfully submits that Greenwood, when analyzed by one having ordinary skill in the art, clearly teaches and/or fairly suggests such centerline location and orientation.

Upon a review of Figures 14-18, particularly Figure 17, Greenwood teaches to one having ordinary skill in the art that each aperture is formed as claimed in the present invention. It is noted that Figure 17 of Greenwood very much resembles Figure 2A of the present application. The only clear difference between the structures depicted in these Figures is that the present application has a slit (as depicted in Figure 2B of the present application) rather than the round pin-hole of Greenwood. It is further noted that this difference is reflected in allowed claims 18-20 and 24-26. The aperture depicted in Figure 17 includes a hemispherically shaped recess or depression 74 which is substantially the same as that of the present invention. Further, the aperture depicted

in Figure 17 also includes a perforation 73 that is located and oriented in the substantially the same manner as the perforation of the present invention, particularly as shown in Figure 2A of the present application, and in the manner claimed in the appealed claims. It is respectfully submitted that, to the extent claimed, the aperture (73 & 74) of Greenwood meets the corresponding limitations of the claimed invention. It is again noted that the only clear difference, in which the present invention discloses a slit rather than a round hole, is reflected in allowed claims 18-20 and 24-26. The aperture (73 & 74) of Greenwood meets the critical limitation argued by appellant wherein each aperture (73 & 74) has a centerline that is "coincident to a radius that forms a concave curvature of said domed portion" as set forth in the claims. This limitation also could be described as the centerline is perpendicular to a tangent line at the point of intersection between the centerline and the surface of the disk. In Figure 17 of Greenwood, it is respectfully submitted that the line representing perforation 73 appears to extend from the apex of depression 74, extends to the outer surface of diaphragm 72, and appears to intersect that surface at an angle of about 90 degrees to a tangent of the surface at the point of intersection. Such an intersection is precisely how the radius of the surface intersects the surface. Thus, the centerline is coincident to a radius of the concave curvature of the domed portion, and Greenwood meets the claimed limitations.

On page 8 of the Appeal Brief, appellant argues that:

"Applicants previously made of record a geometric dissection of FIG. 17 of Greenwood which included the radius of curvature of the Greenwood vent disc, and which is included in Appendix E."

However, it is respectfully submitted that the Examiner cannot rely on such an analysis for patentability for at least the following reasons.

First, it is not at all clear how appellant has constructed this geometric dissection, and it is not at all clear how appellant could consider such a line to be a radius, particularly since it intersects both the inner and outer surfaces of the domed portion at an angle that is not perpendicular to a tangent line at the point of intersection. Further, appellant has stated that appellant's attorney previously drew the radius of curvature of the spherical segment using a compass according to geometric principles. However, appellant's attorney has not stated what "geometric principles" were used and how they were applied to the invention of Greenwood as shown in Figure 17. It is not at all clear to the Examiner how given the outside diameter and an inside diameter (as well as the resulting thickness) of the domed shaped portion, appellant was able to relate these values to the structure shown in Fig. 17, which is not drawn to any particular scale, and construct an alleged location of a radius and then show that it is not coincident with the centerline of the aperture.

Second, as stated in the Final rejection, it has been held that:

"When the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. See *Hockerson-Halberstadt, Inc. v. Avia Group Int 'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000)." See MPEP 2125.

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Thus, it is respectfully submitted that appellant's analysis using the angles shown in the drawings, particularly Figure 17, is based on drawings of a patent that does not state or suggest that they are drawn to any scale using the exact dimensions, angles, etc.

Rather, the drawings must be considered for what they teach or suggest to one having ordinary skill in the art. It is respectfully submitted that the drawings teach or suggest the claimed invention, particularly the claimed relationship of the centerline with respect to the domed portion of the vent disc.

Contrary to appellant's allegation, it is respectfully submitted that the Examiner has not ignored or disregarded what is taught by Greenwood. Rather, the Examiner has merely applied the geometric relationship(s) Greenwood teaches to one having ordinary skill in the art. It appears to be clear that, in Fig. 17, the aperture, which includes depression 74 and perforation 73, has a centerline that extends through the center of the depression 74 and through the center of the perforation 73 and is perpendicular to a tangent line at each of the outer and inner surfaces at a point where the centerline intersects the tangent line. Such a line is clearly coincident to a radius of the domed portion. Further, there is no evidence to the contrary; that is, there is nothing to suggest that the centerline of the apertures would have any other orientation.

In the second paragraph on page 10 of the appeal brief, appellant argues that

"To disregard the geometric relationship shown in FIG. 17 of Greenwood as the Examiner has done, which shows the centerline of aperture 73 being non-coincidental with the radius of curvature of diaphragm 72, ignores this body of case law."

The Examiner respectfully and strenuously objects to appellant's argument. First, the Examiner has not ignored or otherwise disregarded the geometric relationship shown in FIG. 17 of Greenwood and has not ignored the body of pertinent case law. Second, the Examiner respectfully and strenuously disagrees with appellant's analysis and statement that FIG. 17 shows the centerline of aperture 73 being non-coincidental with the radius of curvature of diaphragm 72. Rather, the Examiner is following exactly the body of case law. That is, it is the Examiner's position that Greenwood, particularly Fig. 17, teaches and/or suggests the claimed geometric relationship; specifically, a centerline of the aperture, which includes perforation 73 and depression 74, that is coincident to the radius of curvature of diaphragm 72.

In the paragraph bridging pages 10 and 11 of the appeal brief, and in the second paragraph on page 11 of the appeal brief, appellant argues that the method of making the diaphragm supports the fact that the centerline shown in Greenwood is non-coincidental with the radius of curvature of diaphragm 72. It is respectfully submitted that such a conclusion is not at all clear to the Examiner.

In the second paragraph on page 11 of the appeal brief, appellant attempts to contrive a distinction between the present invention and the invention of Greenwood by making a distinction between the terms "apex" and "apex region." However, the Examiner's position is that Greenwood, taken as a whole and as best viewed in Fig. 17, teaches one having ordinary skill in the art that the centerline of the aperture (that is, the centerline of both the depression 74 and the perforation 73) extends through the center of the aperture which would mean that it extends through the apex of the depression.

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The apex is clearly considered to be in the apex region. The reason that the specification of Greenwood describes the orientation as being through the "apex region" is not clear and is left to speculation. While appellant appears to be arguing that such proof that Greenwood discloses a different structure, other reasons are just as possible. For example, one other reason could be that Greenwood realizes that tolerances are necessary in manufacturing, and the specification is simply conveying that each perforation does not have to be exactly located in order for the device to function properly. This is the same consideration that must be given to the present invention since it is practically impossible to manufacture perfect devices.

In the paragraph bridging pages 12-13 of the appeal brief, appellant argues that affidavits submitted for the present application stated that the apertures of Greenwood were formed such that they were "random in terms of point of entry, angle, and contact/seal surface area." It is respectfully submitted that the Examiner does not dispute what is being attested to in the affidavits. Rather, the Examiner's rejection is based on what Greenwood teaches to one having ordinary skill in the art. As stated above, the Examiner's position is that Greenwood teaches and/or suggests the claimed invention to one having ordinary skill in the art.

In the paragraph bridging pages 13-14 of the appeal brief, appellant argues that "one of ordinary skill in the art ... would be unable to make the punctures at the correct position within each and every one of the depressions, and would also be unable to make punctures at the correct angle within each and every one of the depressions...".

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However, the Examiner respectfully submits that appellant's statement appears to be nothing more than speculation. It is not at all clear why one of ordinary skill in the art would be unable to make the punctures correctly as described above. Rather, it would certainly seem that one having ordinary skill in the art would be able to make punctures in such a manner if instructed to do so as taught, for example, by Fig. 17 of Greenwood.

In the second paragraph on page 14 of the appeal brief, appellant refers to the affidavits provided in Appendix F and Appendix G, and argues that "Appellant's invention, as recited in claims 14 through 16, was devised by the Applicants in response to this leakage." However, there appears to be no clear nexus between the affidavits and the invention defined by the appealed claims. As described in the affidavits, particularly the affidavit of appendix G, paragraph 16, Mr. Chomik states that:

"To solve the leakage problem, I tried piercing the residuals of a small number of the vent discs by hand with a blade having conical (when viewed in vertical section), angular flat surfaces that formed an elongated horizontal sharp tip, as shown in the drawings of the Application. I found that the resulting perforations were slits that had a uniform, smooth side edges or wall surfaces that provided adequate surface contact area and adequate smooth seal surface area. This solved the leakage problem." (emphasis added).

Thus, there appears to be a nexus between the affidavits and the allowed claims, and it appears that the improvement over Greenwood lies in the fact that the apertures of the

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present invention are formed by the combination of depressions and slits (which is reflected in the allowed claims).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Clark F. Dexter
Primary Examiner
Art Unit 3724

cfd

June 29, 2006

Conferees:

Allan Shoap, SPE, Art Unit 3724 (see initials in Ex. answer mailed 6/3/05)
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